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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/558,893	10/13/2006	Michael Huth	2003P06127W0US	6326
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SIEMENS CORPORATION				
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EXAMINER				
SUNG, GERALD LUTHER				
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03/10/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/558,893

**Applicant(s)**

HUTH ET AL.

**Examiner**

GERALD L. SUNG

**Art Unit**

3741

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This is a final office action in response to the arguments and amendments filed on 16 November 2009.

#### ***Response to Arguments***

2. Applicant's amendments pertaining to indefiniteness rejections under 35 U.S.C 112 overcome the outstanding rejection.

3. Regarding Applicant's arguments pertaining to the Madden reference, the Examiner notes that the Madden reference is inconsistent with the Applicant's intended invention of "a flow element arranged on the combustion chamber wall" and is therefore withdrawn; however, the Examiner will note that the Applicant implies structural limitations which are not present in the claim. While the Applicant indicates that the present invention includes "separate elements as shown in FIG 2", the claims impart no such structural limitations. While the claims are to be interpreted in light of the specification, "limitations appearing in the specification but not recited in the claim should not be read into the claim." E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (finding claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). Therefore, the Examiner respectfully notes the claims, as broadly claimed, do not necessarily require the "flow element" and the "combustion chamber wall" to be separate elements.

4. Regarding the Applicant's arguments pertaining to the rejections under Fujimura reference, the Examiner respectfully disagrees. The Applicant asserts that the

combustion chamber wall of Fujimura does not "surround" the combustion chamber; however, 1) the claims, as broadly presented, do not require that the combustion chamber wall "surround" the combustion chamber, 2) the broadest reasonable definition of surround is to "enclose" where the combustion chamber wall 16 of Fujimura clearly encloses the combustion chamber 12, and 3) the function of a combustion chamber wall inherently requires it to "surround" the combustion chamber.

5. The Applicant further asserts that the air flow passage 30 of Fujimura cannot be fairly considered cooling air; however, the claims as broadly presented only require a "cooling medium." Furthermore, the air flow passage 30 including fuel does not preclude the fuel/air mixture from being a cooling air stream because the air within the fuel/air mixture would inherently have a heat exchange effect.

6. The Examiner notes the Fujimura reference is withdrawn in favor of another rejection but does not concede the relevance of the Fujimura reference in the future.

7. The Examiner would like to further note that terms such as combustion chamber wall, liners, case, heat shields, etc are interchangeable terms in the art that all serve as boundaries within the combustion chamber. The particular wall, liner, etc. is typically distinguished by the function it serves, e.g. hot side liner, cold side liner, etc. Furthermore, the Applicant attempts to use vague terms such as "flow element," "surface" and "selective adjustment of a cooling medium" to describe the rectangular/triangular shaped metal component that increases the flow velocity of the cooling air. These vague terms provide little structural or functional limitations to the claims.

***Claim Objections***

8. Claim 11 is objected to because the Applicant previously uses the term "cooling medium" in claim 10 but refers to a "cooling medium stream" where the cooling medium will have a velocity which would be the "cooling medium stream velocity." Examiner respectfully requests the Applicant maintains consistent terminology throughout the claims.

***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Regarding claim 13, the Applicant's amendments to claim 10 require the flow element to be placed on the combustion chamber wall; however, the limitation "the heat shield element is a single-shell hollow vessel... that the flow element is disposed" found in claim 13 renders the claims indefinite because it is unclear whether the flow element is disposed on the inner liner (composed of heat shields) or the outer combustion chamber wall.

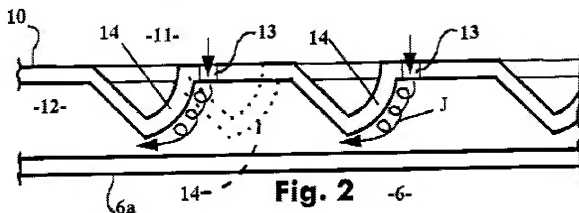
***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States

13. Claims 10-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Senior US 6,122,917.



14. Regarding claims 10 and 19, Senior discloses a high efficiency heat transfer structure comprising a combustion chamber wall 10, a liner 6 formed from a plurality of heat shields (see column 4 lines 25-27, reference to combustion chamber walls) on an inside of the combustion chamber wall, an inner space 12 formed between the heat shield elements and the combustion chamber wall and exposed to a cooling medium (air), a flow element 14a arranged in the inner space for selective adjustment of a cooling stream, the flow element 14a arranged on the combustion chamber wall 10.

15. Regarding claims 11 and 21, the flow element is capable of causing a flow velocity of the cooling medium stream to be increased compared with the upstream velocity. The Examiner notes that the velocity will be largely proportional to the density.

velocity and area at the particular points of interest where below flow choking regimes the flow element 14 is certainly capable of increasing the cooling medium velocity.

16. Regarding claims 12 and 23, the liner 6 is comprised of a plurality of wall where the combustion chamber wall 10 has a plurality of flow elements 14 that are spaced about the entire combustor. Therefore, it can be said that each liner wall ('herein heat shield') is assigned a respective flow element for the purposes of cooling a thermally loaded wall section of the heat shield element.

17. Regarding claims 13 and 24, the heat shield element is a single-shell hollow vessel with a cavity that the flow element is disposed about.

18. Regarding claim 14, the heat shield element has a surface region with a surface contour curved along the longitudinal and transverse axes where the combustion chamber being either circular or annular would necessarily be curved in such a manner.

19. Regarding claim 15, as broadly claimed, the flow element being attached to the combustion chamber wall 10 must inherently be attached by some "mechanical latching element" the devices being mechanical devices and secured to the wall. In the particular case, the flow element may be spot-welded into place.

20. Regarding claim 16, the flow elements are detachably connected to the wall 10 via spot welding where the spot welds need only be removed to remove the flow elements 14.

21. Regarding claims 17-18, the flow elements may be made from strips of sheet metal.

22. Regarding claim 20, the flow element comprises a surface located near a cold side of the heat shield 6 such that the flow channel becomes more narrow, the surface contour of the surface is adapted to match the surface contour of the cold side of the heat shield element in the circumferential direction.
23. Regarding claim 22, referring to figure 4, the flow element has a rectangular cross section where the surface forms the longer side of the rectangle.
24. Regarding claim 25, referring to figure 4, the axial cross section is approximately triangular in shape and the surface forms the longer side of the triangle.
25. Regarding claim 26, the surface is approximately parallel to the cold surface of the heat shield element.

### ***Conclusion***

26. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of



the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERALD L. SUNG whose telephone number is (571)270-3765. The examiner can normally be reached on M-F 9am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cuff can be reached on (571) 272-6778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gerald Sung  
Patent Examiner  
GS  
5 March 2010

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/Michael Cuff/

Supervisory Patent Examiner, Art Unit 3741